

Date: Friday, 12/9/2005 12:06:38 PM
 User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: WEARPAD
Job Number	: 25193		
Estimate Number	: 11354		
P.O. Number	: <i>N/A</i>	Part Number	: D334013
This Issue	: 12/9/2005	S.O. No. :	<i>N/A</i>
Prsht Rev.	: NC	Drawing Number	: D3340 REV B
First Issue	: 12/9/2005	Project Number	: N/A
Previous Run	: <i>N/A</i>	Drawing Revision	: B
	Type : PURCHASED PARTS	Material	: <i>N/A</i>
Written By	: <i>See comment below</i>	Due Date	: 12/30/2005
Checked & Approved By	: <i>See comment below</i>	Qty:	10 Um: Each
Comment	: Est: A 05.11.10 Preliminary issue AP/EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	PG	PURCHASING
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Comment: PURCHASING

Issue P/O: *00000267*

Email of ship DXF file to vendor

Laser Cut per Dwg D3340 flat pattern D3340-13

Material release note required

2.0	D334013F	Wearplate
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Comment: Qty.: 1.0000 U(s)/Unit Total : 10.0000 U(s)

Wearshoe

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material release note is attached

DL 05/12/30 10

4.0	QC6	DIMENSIONAL CHECK
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Comment: DIMENSIONAL CHECK

Inspect dimensions

06.01.04 9 PTO

5.0	BRAKE NC	NC BRAKE
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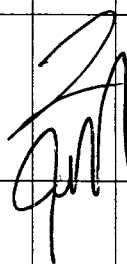
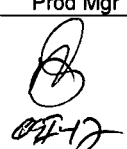
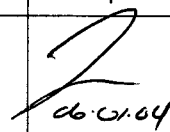



Comment: NC BRAKE

Deburr if necessary

Form on brake as per Dwg D3340 using Jigs DT *8326* and DT *8261**SB 06/10/04 9*

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
06-01-04	4	Took 1 for template Identify as DT8830		06-01-04	1		

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA:  Date: 06/01/16

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 12/9/2005 12:06:38 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPAD

Job Number: 25193

Part Number: D334013

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



26.01.04

9

Comment: INSPECT WORK TO CURRENT STEP

7.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

FC 06.01.12

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

C 20.06.10/13

9

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

C 20.06.10/13

9

10.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

20.06.10/16

9

Job Completion



4 06.01.13

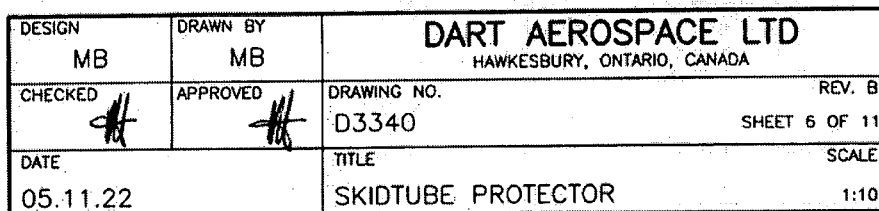
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

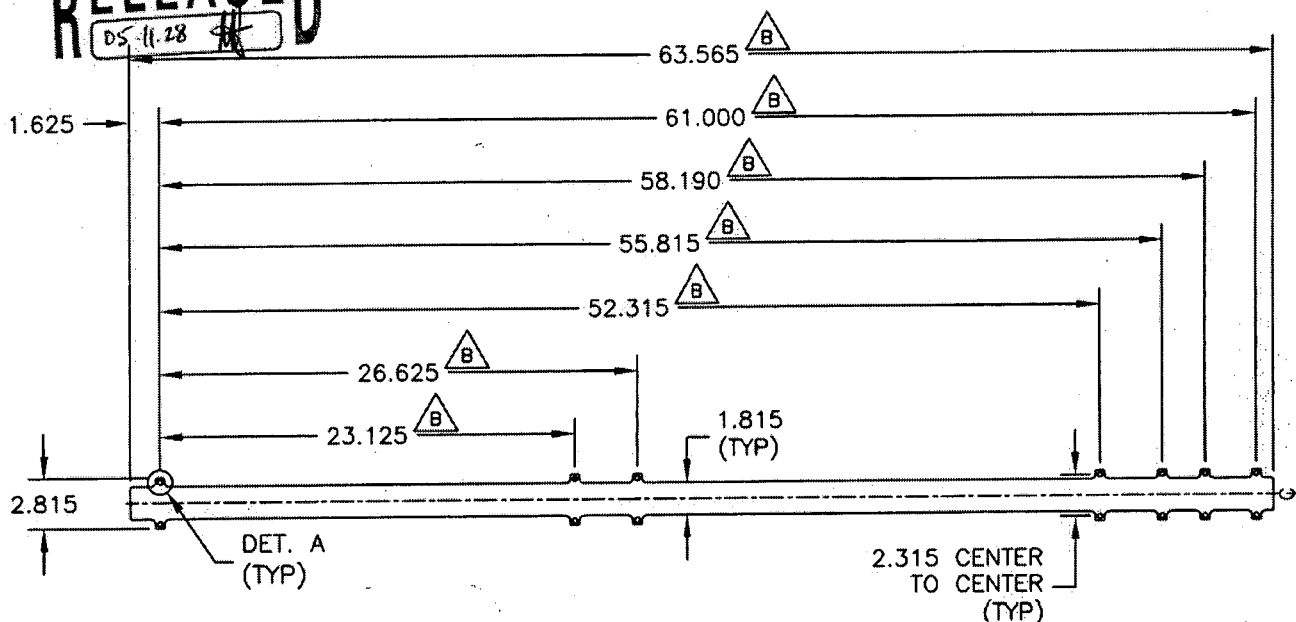
QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



RELEASED
05-11-28



D3340-13F FLAT PATTERN



D3340-13 AFT SKIDTUBE PROTECTOR

NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR
CSA G40-21, 38W/44W/50W/60W/70W SERIES
COLD ROLLED STEEL 19 GAUGE (0.040 THICK)
- 2) PART IS SYMETRICAL ABOUT CENTER LINE
- 3) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP CORNERS 0.063 MAX

WORK ORDER

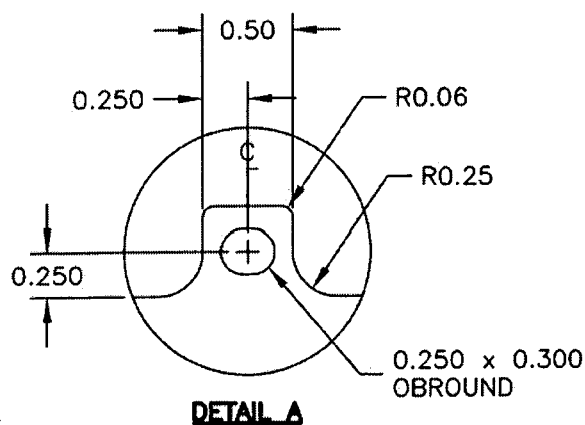
NO. 25193

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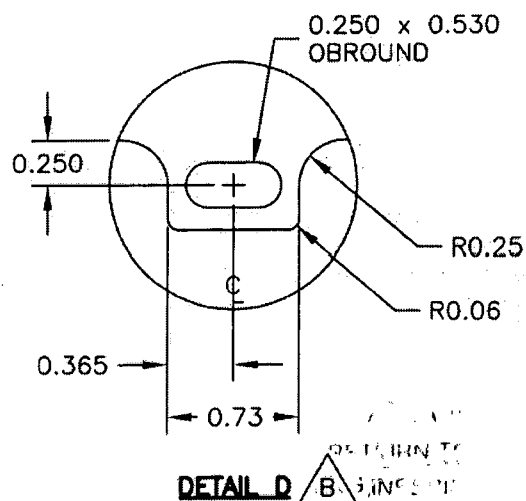
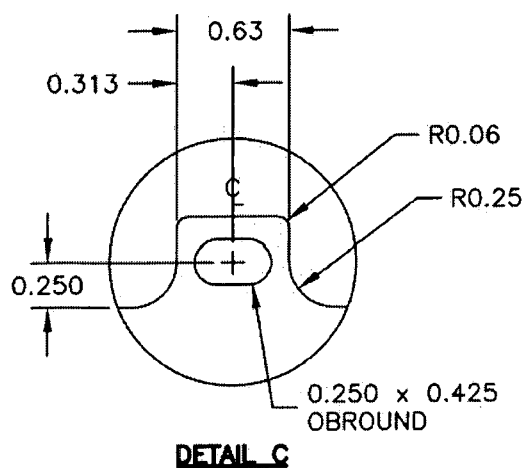
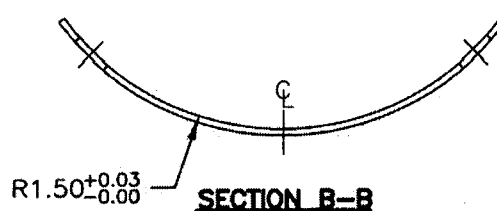
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DESIGN MB	DRAWN BY MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3340	REV. B SHEET 11 OF 11
DATE 05.11.22		TITLE SKIDTUBE PROTECTOR	SCALE 1:1



RELEASED
05-11-28



RETURN TO
B. J. SINGH
UNTR. CO.
CT TO SWP
WITHOUT NOTICE
WORK ORDER
NO. 25193

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01/18/05 TUE 15:50 FAX 604 272 0981 INTEGRIS METALS --- MTR MINNEAPOLIS 01010

INSPECTION CERTIFICATE

MATERIAL TEST/INSPECTION CERTIFICATES

90229759

YEN MAU CORP.
YEN MAU CORP.

INVOICE NO.: FORM 065
COMMODITY: PRIME COLD ROLLED STAINLESS STEEL SHEET AISI 304 NO.4 (SI)
FINISH WITH 100 MIC FILM ON MAIN SIDE, WITH BACK PASS,
SLITTED EDGE AISI 304, 2B FINISH, WITH PAPER INTERLEAVED,
SLITTED EDGE.
AISI 304

工廠: 基隆港路 100 號 345 號
345, SHUN AN RD. W. CHUHSIANG
KAOHSIUNG TAIWAN R.O.C.
TEL: (07) 8672885 FAX: (07) 8673006
CERTIFICATE NO: 9811182
DATE OF ISSUE: 1/12/2004

SPECIFICATION: INTEGRIS METALS LTD
CUSTOMER:

CUSTOMER :		INTEGRIS METALS LTD				Physical Properties Tensile Test GL-50 m/m					Chemical Composition (%)							
(ITEM NO) SIZE	NO.	Weight (N.W.)		Heat No.	ID NO.	Y.S. (N/mm ²)	T.S. (N/mm ²)	E.L. (%)	HRB	HV	C x100	SI x100	Mn x100	P x100	S x100	Ni x100	Cr x100	N x100
		KGS	LBS															
AISI 304 2B (7425-4228)	1	1,465	3,230	YU231320	3AS44463B-21	258	685	56	81	156	4.8	51	119	24	2	804	1821	2.7
24GA/48"X120"	1	1,464	3,228	YU231320	3AS44463B-22	258	685	56	81	156	4.8	51	119	24	2	804	1821	2.7
24GA/48"X120" (7425-8860)	1	1,464	3,228	YU230510	38637608B-61	280	673	53	82	162	5.4	50	126	26	3	815	1819	2.4
22GA/48"X96" (7425-8850)	1	1,375	3,031	YU230510	38S37608B-52	280	673	53	82	162	5.4	50	126	26	3	815	1819	2.4
22GA/48"X120" (7425-8860)	1	1,445	3,186	YU134975	3AS43434A-1	312	666	51	82	161	4.1	49	112	24	2	809	1821	2.8
18GA/48"X96" (7425-2819)	1	1,497	3,300	YU231066	3AS42732-4	301	664	49	84	166	3.7	40	116	27	5	810	1824	3.7
18GA/48"X120" (7425-2819)	1	1,453	3,203	YU231066	3AS42732-5	301	664	49	84	166	3.7	40	116	27	5	810	1824	3.7
18GA/48"X120"	1	1,455	3,208	YU231066	3AS42732-6	301	664	49	84	166	3.7	40	116	27	5	810	1824	3.7
16GA/48"X120" (7425-6166)	1	1,423	3,137	YU231143	3AS42866A-6	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7
16GA/48"X120"	1	1,424	3,139	YU231143	3AS42866A-7	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7
16GA/48"X120"	1	1,420	3,131	YU231143	3AS42866B-1	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7
16GA/48"X96" (7425-7049)	1	1,441	3,177	YU231075	3AS42917A-1	302	650	52	83	162	4.2	48	119	26	6	806	1813	3.4
16GA/48"X96"	1	1,441	3,177	YU231075	3AS42917A-2	302	650	52	83	162	4.2	48	119	26	6	806	1813	3.4
14GA/48"X120" (7425-8053)	1	1,420	3,131	YU231075	3AS42917A-3	302	650	52	83	162	4.2	48	119	26	6	806	1813	3.4
14GA/48"X120"	1	1,420	3,131	YU231075	3AS42917A-4	302	650	52	83	162	4.2	48	119	26	6	806	1813	3.4
14GA/60"X96" (7425-8244)	1	1,446	3,188	YU135202	3AS45623A-211	301	641	53	81	157	5.1	51	114	30	9	806	1822	3
14GA/60"X96" (7425-8277)	1	1,405	3,097	YU135202	3AS45623A-213	301	641	53	81	157	5.1	51	114	30	9	806	1822	3
14GA/60"X120"	1	1,540	3,395	YU135202	3AS45623A-214	301	641	53	81	157	5.1	51	114	30	9	806	1822	3

NO MERCURY CONTAMINATION

Send test report for all Heat NO.

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS
BEEN MADE IN ACCORDANCE WITH THE RULES OF THE MILL CERTIFICATE.

PRODUCT IN ACCORDANCE WITH ASTM A240, A480,
A362R, ASME SA340, Q35765D.

YEN MAU CORP.

Signature
Manager of Quality Assurance

20 ga 304 455

(0.037)

po # 267 196

13



New Zealand Steel Limited
Glenbrook, South Auckland
Postal Private Bag 92121, Auckland, New Zealand
Telephones: (09) 375 8998 / 375 8111 Auckland
(09) 235 8089 / 235 3535 Waiuku
Fax: (09) 375 8959

TEST CERTIFICATE

Ref: 5210/22495

CUSTOMER	Wilkinson	P50323 DI001	SPECIFICATION	ASTMA1008 CS Type A	CERTIFICATE No	TC112397
CUSTOMER O/N	90-21N-686		PRODUCT	CRA WIDE COIL	PAGE	1 of 1
MILL O/N	480737		DIMENSIONS	0.055" x 48" x Coil	DATE	09 June 2005

PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT														MECHANICAL TESTS (TEST SPECIFICATION - ASTMA370)								
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE()	BEND	YIELD	T.S.	%ELONG	HARDNESS	r	LENGTH
		x100				x1000										x10000		x100		180°			G.L.=	HRB
R9-459713-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1585
R9-459714-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1457
R9-459715-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1375
R9-459716-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1473
R9-459717-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1631
R9-459718-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1093
R9-459719-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1562
R9-459720-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1535
R9-460380-00	641761	4	TR	20	13	17	12	18	25	5	8	1	1					Good				50		1581
R9-460381-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1562
R9-460382-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1503
R9-461458-00	642309	2	TR	18	10	20	11	17	19	1	6	1	1					Good				48		1785

PA: 227181
WV: 55031MD009

YIELD	GAUGE LENGTH (G.L.)	PLASTIC STRAIN RATIO (r)	IMPACT TEST	(C)=5mm x 5mm	CARBON EQUIVALENT VALUE (CE)
(A)=0.2% PROOF STRESS	(A)=200mm (C)=80mm (E)=2"	(A)=r0 (C)=r45	(A)=10mm x 10mm	(D)=2.5mm x 10mm	(A)=C+Mn/8
(B)=LOWER YIELD STRESS	(B)=50mm (D)=5.65 So (F)=8"	(B)=r90 (D)=(r0+r90+2r45)/4	(B)=7.5mm x 10mm	(E)=5mm x 10mm	(B)=C+Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15
					(C)=C+Mn/8+Si/24
					(D)=

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED
WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED

Datish Misra
QC METALLURGIST

16 ga ms

POA 146, 267, 245,



New Zealand Steel Limited
Glenbrook, South Auckland
Postal: Private Bag 92121, Auckland, New Zealand
Telephones: (09) 375 8899 / 375 8111 Auckland
(09) 235 8089 / 235 3535 Wairakei
Fax: (09) 375 8959

TEST CERTIFICATE

Ref: 5379/23650

CUSTOMER Wilkinson		P50505-01002		SPECIFICATION <u>ASTMA1008 CS Type A</u>		Reissued 22/8/2005																										
CUSTOMER O/N 90-21N-742				PRODUCT CRA WIDE COIL		CERTIFICATE No TC116858																										
MILL O/N 486968				DIMENSIONS 0.033" x 48" x Coil		PAGE 1 of 1																										
						DATE 19 August 2005																										
PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT													MECHANICAL TESTS (TEST SPECIFICATION - ASTMA370)																	
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ()	BEND	YIELD	T.S.	%ELONG	HARDNESS	r	LENGTH								
		x100													x10000							180°										
R9-466080-00	845423	6	TR	21	11	16	17	20	16	2	3	1	3					Good				50	()	2700								
R9-466081-00	845423	6	TR	21	11	16	17	20	16	2	3	1	3					Good				50		2700								
R9-466082-00	845253	6	1	21	10	12	28	30	15	2	3	1	3					Good				47		2651								
R9-466083-00	845253	6	1	21	10	12	28	30	15	2	3	1	3					Good				47		2651								

Feb 07 04

YIELD		GAUGE LENGTH (G.L.)		PLASTIC STRAIN RATIO (r)		IMPACT TEST		CARBON EQUIVALENT VALUE (CE)	
(A)=0.2% PROOF STRESS	(A)=200mm	(C)=80mm	(E)=2"	(A)=r0	(C)=r45	(A)=10mm x 10mm	(C)=5mm x 5mm	(A)=C+Mn/6	(C)=C+Mn/6+Si/24
(B)=LOWER YIELD STRESS	(B)=50mm	(D)=5.65? So	(F)=8"	(B)=r90	(D)=(r0+r90+2r45)/4	(B)=7.5mm x 10mm	(D)=2.5mm x 10mm	(B)=C+Mn/8+(Cr+V+Mo)/5+(Cu+Ni)/15	(D)=

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED
WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED

Satish Misra
OC METALLURGIST

20 gaus

PO# 267, 146,